

Assignment For Day 1



1. Explain the use of JavaScript (or What you can do using a JavaScript)

=> JavaScript is a programming language that is used for both server-side and client-side applications enabling web-pages to be interactive. Where HTML & CSS provide the structure and style to a web page JavaScript provides interactive components that engage users.

Though JavaScript is mostly used for building web-pages, it's a very versatile language that can also be used software, hardware controls and building engaging applications and games.

2. What is the difference between client-side and server-side?

=> Client side means that the JavaScript runs on the client machine that is a web-browser and server-side means that the JavaScript runs on the server that is serving the web-pages.

3. What is Nodejs?

=> NodeJS is an open-source server environment that is bundled with other utilities to run JavaScript. NodeJS uses asynchronous programming

4. Explain Scope in JavaScript

=> Scope determines accessibility/ visibility of a variable.

JavaScript has 3 kinds of scope:

1. Block

Before ES6 JavaScript only had Function and Global scope but ES6 introduced let and const which were used to define variables that had their scope only until a block that is `{ }`.

2. Function

Any variable declared and defined within a function automatically gets its scope defined as function scope.

```
Ex: function ... () {  
    //anything defined here is function scope  
    let a;  
    const b;  
}
```

3. Global

Any variable defined globally (defined outside a function) are automatically global variables that is they can be used within any JavaScript functions that follows.

If you assign a value to a variable that has not been declared, it will automatically become a **GLOBAL** variable.

```
myfunc();  
  
//name can be used here as well  
  
function myfunc() {  
    name = 'Shubham'  
}
```

5. JavaScript is asynchronous or synchronous.

=> At its core JavaScript is synchronous, blocking language that means only a single task can progress at a time but that's not all though synchronous task can be very time expensive that's why JavaScript community developed some great workarounds like:

1. Asynchronous Callbacks
2. Promises

3. Async/ Await

So, JavaScript can be made to work asynchronously as well but it's not baked in, though possible...

6. JavaScript is Single-threaded or multi-threaded.

=> Single-threaded

7. Explain DOM in your own word.

=> Document Object Model represents the content of a HTML or XML document structure.

DOM is a programming interface or an API that can be used with languages like JavaScript to read, access or update the content of the document

Document => file

Object => tag elements

Model => layout structure